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2016

Nebraska Summary: S1066 Challenger MT525E

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SUMMARY OF OECD TEST 2995-NEBRASKA SUMMARY 1066

CHALLENGER MT525E AUTOPOWER IV DIESEL

16 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	D.E.F. Consumption Gal/hr (l/h)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—1034 rpm)					
136.5 (101.8)	2100	7.96 (30.15)	0.407 (0.248)	17.15 (3.38)	0.56 (2.11)
Standard Power Take-off Speed (1000 rpm)					
138.1 (103.0)	2030	7.96 (30.14)	0.402 (0.245)	17.35 (3.42)	0.62 (2.36)
Maximum Power (1 hour)					
142.0 (105.9)	1900	7.99 (30.24)	0.393 (0.239)	17.77 (3.50)	0.58 (2.21)

VARYING POWER AND FUEL CONSUMPTION

136.5 (101.8)	2099	7.96 (30.15)	0.407 (0.248)	17.15 (3.38)	0.56 (2.11)	Air temperature
116.4 (86.8)	2108	7.16 (27.10)	0.430 (0.261)	16.26 (3.20)	0.41 (1.56)	73°F (23°C)
87.7 (65.4)	2118	5.94 (22.48)	0.473 (0.287)	14.77 (2.91)	0.29 (1.11)	Relative humidity
58.6 (43.7)	2122	4.65 (17.61)	0.555 (0.337)	12.60 (2.48)	0.22 (0.85)	75%
29.5 (22.0)	2131	3.43 (12.99)	0.813 (0.494)	8.59 (1.69)	0.13 (0.50)	Barometer
--	2139	2.37 (8.95)	--	--	0.03 (0.13)	30.2" Hg (102.2 kPa)

Maximum torque - 461 lb.-ft. (625 Nm) at 1400 rpm

Maximum torque rise - 35.2%

Torque rise at 1700 engine rpm - 25%

Power increase at 1900 engine rpm - 4.0%

DRAWBAR PERFORMANCE

(Unballasted - Front Drive Engaged)

FUEL CONSUMPTION CHARACTERISTICS

Power HP (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Temp. °F (°C) cool- ing med	Barom. inch Hg (kPa)
Power at Rated Engine Speed—9th(3A) Gear							
110.8 (82.6)	7195 (32.0)	5.77 (9.28)	2100	4.8	0.473 (0.288)	14.77 (2.91)	181 (83)
75% of Pull at Rated Engine Speed—9th(3A) Gear							
85.0 (63.4)	5350 (23.8)	5.97 (9.60)	2123	2.9	0.546 (0.332)	12.79 (2.52)	180 (82)
50% of Pull at Rated Engine Speed—9th(3A) Gear							
58.7 (43.8)	3635 (16.2)	6.06 (9.75)	2130	1.4	0.674 (0.410)	10.36 (2.04)	180 (82)
75% of Pull at Reduced Engine Speed—10th(3B) Gear							
85.0 (63.4)	5385 (23.9)	5.92 (9.53)	1719	3.0	0.514 (0.313)	13.59 (2.68)	180 (82)
50% of Pull at Reduced Engine Speed—10th(3B) Gear							
58.7 (43.8)	3650 (16.2)	6.03 (9.71)	1725	1.6	0.571 (0.347)	12.23 (2.41)	178 (81)

Location of tests: IRSTE, Centre d'Antony, 1 rue Pierre-Gilles de Gennes CS 10030 Antony, 92163, Cedex, France

Dates of tests: June to July, 2016

Manufacturer: AGCO S.A. BP 307, Avenue Blaise Pascal, 60026 Beauvais, France

CONSUMABLE FLUIDS: Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.839 Fuel weight 6.98 lbs/gal (0.837 kg/l) Diesel Exhaust Fluid (DEF) 32% aqueous urea solution DEF weight 9.10 lbs/gal (1.091 kg/l) Oil SAE 15W40 API service classification CJ-4 Transmission and hydraulic lubricant BP Terrac Tractan 9 15W/40 Front axle lubricant BP Terrac Tractan 9 15W/40

ENGINE: Make AGCO Power Diesel Type six cylinder vertical with turbocharger, air to air intercooler and SCR (selective catalyst reduction) exhaust treatment Serial No. Z100 Crankshaft lengthwise Rated engine speed 2100 Bore and stroke 4.252" x 4.724" (108.0 mm x 120.0 mm) Compression ratio 17.4 to 1 Displacement 402 cu in (6596 ml) Starting system 12 volt Lubrication pressure Air cleaner two paper elements Oil filter one full flow cartridge Oil cooler engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil Fuel filter three paper cartridges Muffler vertical Cooling medium temperature control thermostat and variable speed fan

CHASSIS: Type front wheel assist Serial No. E 006901 Tread width rear 52.8" (1340 mm) to 87.8" (2230 mm) front 52.8" (1340 mm) to 87.8" (2230 mm) Wheelbase 113.2" (2875 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio with partial (4) range operator controlled powershift Nominal travel speeds mph (km/h) first 1.24 (2.00) second 1.53 (2.46) third 1.86 (3.00) fourth 2.29 (3.69) fifth 2.95 (4.74) sixth 3.62 (5.83) seventh 4.42 (7.11) eighth 5.43 (8.74) ninth 5.98 (9.62) tenth 7.36 (11.84) eleventh 8.97 (14.44) twelfth 11.04 (17.76) thirteenth 15.09 (24.29) fourteenth 18.56 (29.87) fifteenth 22.64 (36.44) sixteenth 27.84 (44.81) reverse 1.24 (2.00), 1.53 (2.46), 1.86 (3.00), 2.29 (3.69), 2.95 (4.74), 3.62 (5.83), 4.42 (7.11), 5.43 (8.74), 5.98 (9.62), 7.36 (11.84), 8.97 (14.44), 11.04 (17.76), 15.09 (24.29), 18.56 (29.87), 22.64 (36.40), 27.84 (44.81) Clutch multiple wet disc operated by foot pedal Brakes multiple wet disc hydraulically operated by two foot pedals that can be locked together Steering hydrostatic Power take-off 540 rpm at 1982 engine rpm or 1000 rpm at 2030 engine rpm Unladen tractor mass 14650 lb (6645 kg)

DRAWBAR PERFORMANCE AT 1900 ENGINE RPM

(Unballasted - Front Drive Engaged) MAXIMUM POWER IN SELECTED GEARS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F(°C) cool- ing med	Barom. inHg (kPa)	
5th(2A) Gear									
92.7 (69.1)	13330 (59.3)	2.61 (4.20)	2098	12.5	0.544 (0.331)	12.84 (2.53)	180 (82)	66 (19)	30.1 (101.9)
6th(2B) Gear									
104.2 (77.7)	12590 (56.0)	3.10 (5.00)	1944	8.7	0.502 (0.306)	13.91 (2.74)	178 (81)	66 (19)	30.1 (101.9)
7th(2C) Gear									
107.3 (80.0)	10590 (47.1)	3.80 (6.11)	1902	6.3	0.479 (0.292)	14.57 (2.87)	178 (81)	66 (19)	30.1 (102.0)
8th(2D) Gear									
106.6 (79.5)	8230 (36.6)	4.86 (7.82)	1916	3.2	0.485 (0.295)	14.39 (2.84)	180 (82)	68 (20)	30.1 (102.0)
*9th(3A) Gear									
121.2 (90.4)	8565 (38.1)	5.31 (8.54)	1899	3.4	0.462 (0.281)	15.13 (2.98)	181 (83)	68 (20)	30.1 (102.0)
*10th(3B) Gear									
116.8 (87.1)	6740 (30.0)	6.50 (10.46)	1887	2.9	0.473 (0.287)	14.76 (2.91)	180 (82)	68 (20)	30.1 (102.0)
*11th(3C) Gear									
116.0 (86.5)	5465 (24.3)	7.96 (12.81)	1890	2.4	0.481 (0.293)	14.52 (2.86)	181 (83)	68 (20)	30.1 (102.0)
*12th(3D) Gear									
112.1 (83.6)	4210 (18.7)	9.98 (16.06)	1908	1.8	0.506 (0.308)	13.81 (2.72)	181 (83)	68 (20)	30.1 (102.0)

*Powerboost mode

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE 1: This tractor has a power management system that provides an engine power increase when the PTO is engaged and for travel speeds from gear 3A and higher.

NOTE 2: The data on this summary was obtained from OECD report 2995 conducted on the Massey Ferguson 7715 Dyna 4 Diesel.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor did not meet the manufacturer's remote flow claims of 29 GPM (110 l/min) (multiple outlets), 26.4 GPM (100 l/min) (single outlet), nor 3 point lift claim of 8900 lbs (4035 kg). The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. 2995, Nebraska Summary 1066, January 9, 2017.

Roger M. Hoy
Director

M.F. Kocher
P.J. Jasa
S.K. Pitla
Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	Front wheel drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in 7th (2C) gear	69.0	69.0
Bystander		--

TIRES, BALLAST AND WEIGHT

Rear Tires - No., size, ply & psi(kPa)

Front Tires - No., size, ply & psi(kPa)

Height of Drawbar

Static Weight with operator - Rear

- Front

- Total

Tested without ballast

Two 580/70R38; **,13(90)

Two 480/70R28; **,15(100)

19.7 in (500 mm)

8200 lb (3720 kg)

6615 lb (3000 kg)

14815 lb (6720 kg)

HYDRAULIC PERFORMANCE

CATEGORY: III

Quick Attach: None

OECD Static test

Maximum force exerted through whole range: 8630 lbs (38.4 kN)

i) Sustained pressure of the open relief valve: 2875 psi (198 bar)

two outlet sets combined

ii) Pump delivery rate at minimum pressure: 25.2 GPM (95.5 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 23.8 GPM (90.0 l/min)

Delivery pressure: 2380 psi (164 bar)

Power: 33.0 HP (24.6 kW)

single outlet set

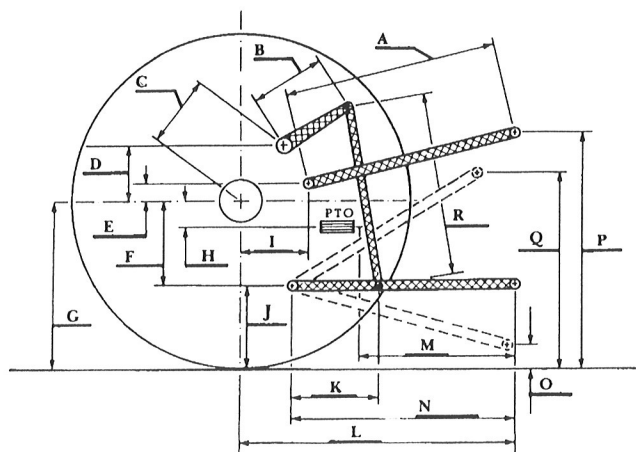
ii) Pump delivery rate at minimum pressure: 25.3 GPM (95.6 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 23.9 GPM (90.5 l/min)

Delivery pressure: 2160 psi (149 bar)

Power: 30.1 HP (22.5 kW)



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	28.7	730
B	11.6	295
C	13.9	354
D	13.0	330
E	9.9	251
F	11.0	280
G	34.4	875
H	1.7	43
I	15.5	394
J	23.4	595
K	21.4	543
L	43.3	1101
M	24.6	625
N	37.0	940
O	8.9	226
P	50.4	1280
Q	36.9	938
R	30.3	770